

CLAIMS:

1. A system for selective thermal treatment of skin irregularities comprising:
 - (i) one or more RF electrodes adapted to apply RF energy to the skin;
and
 - 5 (ii) a RF pulse generator configured to generate pulses of current in the RF range, the voltage pulses having a duration of 2-500ms.
2. The system according to Claim 1 wherein the pulse of the RF current consists of a train of shorter pulses.
3. The system according to Claim 1 further comprising a cooling unit adapted
10 to cool the skin.
4. The system according to Claim 3 wherein the cooling unit comprises a thermoelectric cooler.
5. The system according to Claim 1 further comprising a impedance meter for measuring an impedance across one or more of the RF electrode pairs.
- 15 6. The system according to Claim 5 further comprising a processor configured to determine a heat distribution in the skin based upon one or more impedance measurements.
7. The system according to Claim 6 wherein the processor is further configured to determine one or more parameters of the RF energy based upon one
20 or more impedance measurements.
8. The system according to Claim 7 wherein the one or more parameters are selected from the group comprising a pulse duration of the RF energy, a frequency of the RF energy, a power of the RF energy, and a delay time between cooling the skin an application of the RF energy.
- 25 9. The system according to Claim 1 further comprising input means for determining one or more parameters of the RF energy.
10. The system according to Claim 9 wherein the one or more parameters are selected from the group comprising a pulse duration of the RF energy, a frequency

11. A method for selective thermal treatment of skin irregularities comprising:

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13. The method according to Claim 11 further comprising cooling the skin.

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15. The method according to Claim 13 wherein cooling the skin comprises involves a thermoelectric cooler.

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17. The method according to Claim 16 further comprising determining a heat distribution in the skin based upon one or more impedance measurements.

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19. The method according to Claim 18 wherein the one or more parameters are selected from the group comprising a pulse duration of the RF energy, a frequency of the RF energy, a power of the RF energy, a delay time between cooling the skin and an application of the RF energy.

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21. The method according to Claim 11 wherein an output power of the RF energy is from about 5 to about 500 W.

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